Where Great Floors Begin

SHAW HARDWOODS™

INSTALLATION INSTRUCTIONS

PRE FINISHED, 3/4" SOLID, PLANK OR STRIP

PLEASE READ AND REVIEW THE ENTIRE INSTALLATION INSTRUCTIONS BEFORE PROCEEDING WITH THE ACTUAL INSTALLATION

OWNER/INSTALLER RESPONSIBILITY

Hardwood flooring is a beautiful and unique product of nature, which is characterized by distinctive variations in grain and color. These natural variations in color and grain are not flaws, but are a part of the natural beauty and uniqueness of hardwood flooring. (These inherent variations should be expected and serve to enhance the natural beauty and enduring charm.) Shaw Hardwood Floors™ are manufactured in accordance with accepted industry standards, which permit a defect tolerance not to exceed 5%. The defects may be of a manufacturing or natural type.

- The installer assumes all responsibility for final inspection of product quality. This inspection of all flooring should be done **before** installation. Carefully examine the flooring for color, finish and quality before installing it. Use reasonable selectivity and hold out or cut off pieces with glaring defects whatever the cause. If material is not acceptable, contact your Shaw Hardwood Flooring™ dealer immediately.
- Before beginning the installation of any hardwood flooring product, the installer must determine that the environment of the job site and the condition and type of the subfloor involved is acceptable, insuring that it meets or exceeds all requirements which are stipulated in the Shaw Hardwood Flooring™ installation instructions which follow. Shaw Industries, Inc. declines any responsibility for job failure resulting from or associated with inappropriate or improperly prepared subfloors or job site environment deficiencies.
- The use of stain, filler, or putty stick for the correction of minor defects during installation should be accepted as normal procedure.
- When Shaw Hardwood Flooring™ is ordered, a 5 - 10% waste factor, depending on layout, must be added to the actual square footage amount needed. (Diagonal, herringboned, or bordered installations will require a higher waste percentage .)

JOB SITE INSPECTION & ACCLIMATION

- In new construction, Shaw Hardwood Flooring ™ should be one of the last items installed. All work involving water or moisture (plumbing, acoustical ceilings, dry wall taping, etc.) should be completed prior to wood flooring being installed. Heating and air systems should be fully operating maintaining a consistent room temperature at 68-74 F.
- Flooring should not be delivered until the building has been closed in and cement work, plastering, painting and other materials are completely dry. Concrete and plaster should be cured and at least 60 to 90 days old. Check basements and under floor crawl space, to be sure that they are dry and well ventilated to avoid damage caused by moisture. Bare ground in crawl space areas, should be covered with black, 6-8 mil polyethylene plastic sheeting.
- Flooring should be at the job site at least 72 hours prior to installation. **Do not open until ready to install.**
- Do not store directly upon on grade concrete or next to outside walls. Cartons should be placed in the dry installation area. Stack the carton's flat in stacks 3 or 4 high, away from heat vents, out of direct sun light, as close to the center of the structure as possible.
- The installation site should have consistent room temperature of 60° - 80° F and a constant relative humidity level of 35 - 65 % for a minimum of 5 days prior to the hardwood delivery, and acclimation period required for any Shaw Hardwood Flooring™ product. Solid Hardwood requires a 72 hour minimum acclimation period at the job site, prior to installation.
- When installing Shaw Hardwood over wood or wood based sub floors, there should be no more than a 4% difference in moisture content between the sub flooring and the Hardwood flooring to be installed.
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IMPORTANT:

- 3/4" Solid Flooring is approved for on grade or above grade installation only!!
- DO NOT INSTALL BELOW GRADE LEVEL!!
- 3/4" Solid Flooring **cannot** be installed over radiant heated sub floor systems

Nail Down Installation:

REQUIRED TOOLS AND ACCESSORIES

* Power Nailer / air compressor
* Door jamb saw / manual or power
* Miter or Table Saw
* 15 lb. Asphalt Saturated Felt Paper
* Chalk Line and Chalk
* Safety Equipment (Goggles & Mask)
* Nail Punch / wood chisels
* Tape Measure
* Circular Saw / Jig saw
* Pry Bar
* Broom / shop vac
* Hammer
* Utility Knife

APPROVED FASTENERS for 3/4" Solid Hardwood Installation

* Power Nailer #445 Pneumatic, #45 manual 2" cleat nail
* Primatch Pneumatic Floor Nailer Model P210 with 2" Power Cleat
* Primatech Manual Nailer Model H300 or H330 with 2" Power Cleat
* Stanley-Bostich Pneumatic Floor Nailer MIIIFN with 2" Power Cleat
* Stanley-Bostich Pneumatic Floor Stapler MIIIFS with 2" Staple with 1/2" crown
* Porta-Nailer Manual Floor Nailer Model 401 with 2" Power Cleat
* Porta-Nailer Manual Face Nailer Model 501 with 2' Power Cleat

Note: Use only a flooring nailer that engages the top profile over the tongue at the appropriate angel. Make sure that the flooring nailer is flat against the board to prevent top edge damage. Plate in contact with floor must be smooth and free from nicks or scratches.

Important: Set air compressor to 70 - 80 PSI (or follow manufacturer's suggested PSI setting). Adjust the air pressure to insure proper setting of nails or staples. If tongue damage occurs, lower the air pressure.

Important: If you need to remove a side nailed staple, do not pull straight up from the tongue. This will damage the surface of the board. Instead, pull out the nail or staple from the tongue at the front of the board with all pressure from the hammer head directed into the subfloor.

Wood Subfloor Requirements for Nail-down ¾" Solid Hardwood

NOTE: As flooring manufacturers and wholesalers, we are unable to specifically evaluate each engineered subflooring system. Spacing and span lengths, as well as their engineering methods, are the responsibility of the builder, engineer, architect or consumer, who are better able to evaluate their expected results, based on site-related conditions and performance requirements. The general information provided below describes common, non-engineered joists and subfloor decking systems. Engineered subflooring systems may allow for wider spacing of engineered beam support systems; and alternative subfloor decking materials, while also providing equal performance characteristics to the systems discussed below.

Make sure all wood subfloors are dry, with a maximum of 12 to 14 percent moisture content, and with no more than a 4% difference in moisture content between the subfloor moisture content and the hardwood flooring to be installed.

15# builders felt (tarpaper) should be used as a moisture retarder to help control subfloor movement caused by changes in moisture or humidity levels in crawl spaces and basements. This reduces the potential for cupping or warping of the installed hardwood flooring due to changes in the subflooring and environment.

The subfloor must be structurally sound, clean, and free of any loose debris, as well as any paints, oils, or other contaminants.

The levelness tolerance of 1/8" in 6' must be maintained throughout the installation area. Level any raised subfloor seam edges by rough sanding. Low spots may be leveled by filling with a suitable sub floor-leveling compound following the manufacturers' instructions.

Nail or screw any loose subfloor areas that squeak. Any water-damaged, or deteriorating subflooring, joists or underlayments, must be removed and replaced.

All subfloors must be capable of sustaining the expected loads in the installation area without deflection or movement.

16" Joist Spacing:
Use an APA approved 3/4" minimum thickness, exterior grade plywood, or 3/4" minimum thickness, OSB, following manufacturer guidelines, including expansion spacing between the sheets. The joist manufacturer's recommended span must not be exceeded.

19" Joist Spacing:
Use an APA approved 1-1/4" minimum thickness, exterior grade plywood, or 1-1/4" minimum thickness, OSB, following manufacturer guidelines, including expansion spacing between the sheets. The joist manufacturer's recommended span must not be exceeded.

Joist spacing in excess of 19" is not recommended for solid hardwood installations unless additional layers of directionally opposed sub flooring are installed with sufficient thickness to eliminate sub floor deflection.

Important Notes:

All subflooring and underlayments should be spaced a minimum 1/8" apart for expansion requirements.

Hardwood installations should not be parallel to the floor joists, or on joist spacing that exceeds 19" unless the subfloor has been properly stiffened with additional layers of subflooring to eliminate deflection. Always install flooring perpendicular to the floor joists when possible.

Any additional layers of subflooring or underlayments required, should be installed overlapping the seam areas of the base subflooring.

Do not install over nailed floors that exceed 3-1/4" in width. Wide width floors must be overlaid with plywood.

When installing over existing wood floors parallel with the flooring, install an additional 1/4" layer of plywood to stabilize the flooring, or install the new wood floor perpendicularly.

Do Not install over particleboard, pressed wood or fiberboard.

Do not install over existing glue-down floors.

Do not install solid wood plank or strip over radiant heated subfloors.

Remember: Moisture tests should be completed before and after the hardwood has been acclimated, to insure that the job site conditions meet requirements.

> **Wood Substrates**: Test the moisture of the wood substrate using a calibrated moisture meter approved for testing wood moisture according to the meter manufacturers guidelines. The reading should not exceed 14%, or read more than a 4% difference than moisture content of products being installed.

Concrete Slab: Follow NWFA guidelines, (plywood method or screed/sleeper method). Call Shaw Technical Services @ 800-441-7429, for detailed guidelines. Solid hardwood can be installed on or above grade only. **Never install below grade, in basement areas.**

All concrete subfloors must be tested for moisture content prior to installation of the hardwood flooring. The moisture content of the fully cured **concrete** subfloor must not exceed 3 lbs. /1000 sq.ft./24 hr. emissions, measured using the Calcium Chloride Test method.

Below are methods to test to indicate moisture is present in the concrete sub floor:

1) Use an approved calibrated concrete Moisture Meter as a preliminary measurement for moisture such as: Delmhorst Moisture Meter Model G
   Tramex Concrete Moisture Encounter
   Follow manufacturer's specific calibration requirements.

2) Perform a poly film Test. Tape down 3' x 3' poly film squares in various areas of the floor, every 200 square ft. Wait 48 hours, and then check for the appearance of condensation under the poly-film or for darkening on the concrete sub floor. Either occurrence signals the presence of excess moisture, requiring a mandatory Calcium Chloride Test.

If you have determined that moisture is present, a Calcium Chloride and pH Alkalinity Test are mandatory, to accurately determine the amount of moisture content and the Ph level in the concrete slab, so that corrective actions can be taken.

- Perform a Calcium Chloride test according to the manufacturer's instructions. The maximum acceptable reading is 3-lbs. /24 hours/1000 sq. ft for moisture emissions.
- Perform a pH Alkalinity Test according to the manufacturer's instructions. A pH reading of 6-9 on a pH number scale of 1-14 is acceptable.
  If the test results exceed these numbers, the concrete slab should be sealed with an appropriate sealer to correct conditions to meet the manufacturer's recommendations.

PREPARATION

- Acclimate product for 72 hours prior to installation. Additional acclimation time may be required when extreme climate conditions are present, or sub floor / flooring moisture content conditions exceed the 4% differential required.

- Verify that the sub floor is level and structurally sound. Repair as needed.

- Undercut door case molding.

- Remove any existing wall base, shoe molding, quarter round or doorway thresholds.

- Cover the clean surface, wall to wall, with 15 lb. asphalt saturated felt paper. Butting the edges together.

Important: 3/4" Solid Flooring is for on or above grade installation only! NEVER INSTALL SOLID WOOD BELOW GRADE OR IN BASEMENT AREAS!

Important: 3/4" Solid Flooring cannot be installed over radiant heat floors.

Step 1: ESTABLISH A STARTING POINT

- Before beginning the actual installation, provide proper layout of flooring by distributing short and long lengths equally over the areas where the flooring is to be installed.

Remember: Flooring is to be installed at right angles to the floor joists and if possible, in the longest dimension of the room.

- Work out of several cartons at a time to insure proper color and shade mixture.

- Align the first row of planks to be sure you have a good straight line from one side of the room to the other. Snap a chalk line at the desired distance from the wall to help align the planks. The end joints of plank or strip flooring should be staggered to achieve the best appearance in the finished floor. (Minimum 6")

> **Important:** Allow at least **3/4"** (thickness of hardwood), expansion space at all walls and vertical obstructions. Expansion space will be concealed using baseboard, and quarter round trim.

Step 2: INSTALLING THE FLOOR

- Align the first piece on the chalk line. The groove side and end will be facing the starting wall. Pre drill holes and drive 7D or 8D finish nails or screw type flooring nails into the face of the board every 12" approximately 1/3" - 3/4" from the edge closest to the starting wall and within 2"- 3" from the ends and in the darker grain of the wood.

- Edge nail the plank by driving the same type nails at a 50° angle through the tongue of the first piece, spacing the nails every 8" - 10" and within 2" - 3" from the ends. This process should be repeated for each piece in the entire first row. Upon completion of the first row, go back and sink the face nails with a nail punch. If it appears that the holes will not be covered by the wall base or quarter round trim, fill the holes with matching wood filler, which blends with your pre-stained floor.

> **Note:** Typically, the first few rows must be edge nailed by hand, rather than with a nailing machine due to the vertical wall obstruction. When clearance allows, use an approved nailing machine, which drives 2" fasteners with an appropriate mallet. Used to simplify and speed up the nailing process.

- Install each succeeding row of planks by edge nailing the tongue side every 8" - 10" to within 2" - 3" from board ends. Be attentive to staggering the ends of the boards at least 6" in adjacent rows to avoid clustering end joints. It is best to build a rack 4-6 planks wide as you install wood through the length of the room. Upon reaching the last row to be installed, the planks should be ripped to allow a 3/4" expansion space. The last rows must be fastened by nailing approximately 1/2" - 3/4" from the back edge of the board every 12". The same process of counter sinking the face nails and applying color matched wood filler, should be repeated (as above on starting wall).

Make sure when the installation is complete that the expansion space is covered with the appropriate molding such as, base board and ¼ round.

SPECIAL CIRCUMSTANCES

Doorways: Attempting to continue installing rows through a doorway into another room can cause problems because the narrow opening is a very small base upon which to continue consistent even rows into the next room. **Use a master reference line placed through the adjoining rooms to insure plank alignment.**
Rooms may be divided at doorways by using a color matched T-molding.

Pipes, vents and other fixed objects: Each can be unique, but the general rule is to measure very carefully before you cut and remember to leave a 1/2" expansion gap between the object and the flooring. You will cover expansion gaps with molding, colored sealant, vent covers or pipe rings when the floor is complete.

Installation on Stairs: Flooring on stairs must be fully nailed to the stairs. Installation on a flight of Stairs or complete stairwell is not recommended. Check with local building codes before cutting off any of the original wood on the existing step. Stair Nose Moldings should be installed using construction grade adhesive, as well as screw type fasteners or nails.
CAUTION: Hardwood installed on steps can be slick. Always be very careful, especially while walking on steps with stockings or socks only, on the feet.

MOLDINGS, TRIM & TRANSITION PIECES

Installation Tips:

- Moldings must be predrilled to avoid splitting whenever they are to be secured with nails or fasteners, unless a pneumatic trim nailer is used.
- The tool of choice for cutting hardwood moldings is a 10" or 12" motorized miter saw with pre-set adjustments for the basic miter cuts at 22.5°, 45°, and 90°. A carbide tipped blade makes the best cuts.

- When installing Wall Base molding, eliminate the need to putty as many holes on the molding by placing the bottom nail below the finished line of the Quarter Round.
- On Wall Base or Quarter Round moldings, never restrict the hardwood floor's natural contraction/expansion movement by driving the fasteners at a downward angle. Rather, attach the moldings to the wall or vertical surface.
- Always miter cuts rather than having butt cuts when splicing hardwood moldings. Decide the direction of the miter by cutting the molding with the long point oriented in the same direction as your natural line of vision when you enter the room.

Wall Base - Borders the wood floor at the base of the wall to give the room a finished look. This molding along with the Quarter Round conceals the required expansion space between the wall and the hardwood flooring. It is also sometimes used under cabinets and toe kicks.

Quarter Round - This molding conceals the required expansion space between the Wall Base and the hardwood flooring. It is also sometimes used under cabinets and toe kicks where a wall base won't fit or at the base of the stairs to provide a subtle blend between the floor and the wall or vertical surface.

Threshold – A molding typically used at exterior doorways as a transition between flooring and the doorway threshold. It is also used to transition a wood floor to different floors to make them fit together perfectly, such as high pile carpeting or tile. Another typical use for a threshold is to conceal the expansion space between the flooring and a vertical surface such as fireplace hearths and sliding glass doors.

Installation: Lay the Threshold Molding in place to determine a proper fit. The Threshold Molding should overlap the flooring by 1/8" to 1/4" leaving the balance for expansion. Nail the molding to the subfloor behind the lip of the molding. Be sure when nailing, not to obstruct the floors expansion space.

T Molding - Used in doorways to join two wood floors in adjoining rooms, or when making transitions, from a wood floor to another floor that is approximately the same height such as ceramic tile, hardwood or laminate floors.

Installation: A space of 1 1/4" between the two adjoining floors is necessary to properly install the T- molding. This is to allow for the expansion space. Measure, cut, and dry fit the T-molding in place to insure the proper fit. When using the T-molding between a ceramic tile floor and the hardwood floor, apply 1/4" bead of clear silicone sealant to the top edge of the ceramic tile. When using between two hardwood floors, seat the molding in place allowing for a minimum of a 1/4" overlap on the wood flooring. Make sure to allow for the expansion space between the T-Molding and the tile or wood. Fasten the T-mold by nailing to the sub floor through the center part of the molding.

Flush Reducer - Used to join hardwood floors with floors in adjoining rooms that have floor coverings that are lower in height, such as vinyl, ceramic tile, or low pile carpeting.

Installation: To attached molding, pre-drill and nail in appropriate 6" to 8" intervals. Do not nail closer than 2"-3" from the ends of either side.

Flush Stair Nose - Provides the proper transition for stair treads, which match the hardwood flooring that has been installed. The Stair Nose also provides the proper transition from one floor level to the next, such as the step down into a sunken living room.

Installation: All Stair Nose moldings must be installed using construction grade adhesive as well as finish nails or screws. Set the nail or screw heads, then use color matched wood filler to achieve a desirable finished look.

Hardwood Flooring Care & Maintenance

Routine Maintenance

1. Use a damp cloth to blot up spills as soon as they happen. Never allow liquids to stand on your floor.
2. For tough spots, such as oil, paint, markers, lipstick, ink, or tar, use acetone/nail polish remover on a clean white cloth, then wipe the area with a damp cloth to remove any remaining residue.
3. Sweep, dust, or vacuum the floor regularly with the hard floor attachment (not the beater bar) to prevent accumulation of dirt and grit that can scratch or dull the floor finish.
4. Periodically clean the floor with cleaning products made specifically for pre-finished hardwood floor care.
5. Do not wash or wet mop the floor with soap, water, oil-soap detergent, or any other liquid cleaning material. This could cause swelling, warping, delamination, and joint-line separation, and void the warranty.
6. Do not use steel wool, abrasive cleaners, or strong ammoniated or chlorinated type cleaners.
7. Do not use any type of buffing or polishing machine.
8. For spots such as candle wax or chewing gum, harden the spot with ice and then gently scrape with a plastic scraper, such as a credit card. Be careful not to scratch the flooring surface. Wipe clean with a damp cloth.
9. For tough stains, you may need to use a heavy-duty stain remover made specifically for hardwood floors.
10. A more frequent dust-mopping or vacuuming schedule may be required in very sandy areas such as a beach home.

Environmental Protection

1. Entry mats will help collect the dirt, sand, grit, and other substances such as oil, asphalt, or driveway sealer that might otherwise be tracked onto your floor.
2. Do not use rubber or foam backed plastic mats as they may discolor the flooring finish. To prevent slippage, use an approved vinyl rug underlayment.
3. Use floor protectors and wide-load bearing leg bases/ rollers to minimize indentations and scratches from heavy objects. As a rule, the heavier the object, the wider the floor protector.
4. Maintain a normal indoor relative humidity level between 45 and 65% throughout the year to minimize the natural expansion and contraction of the wood.
    a. Heating season (Dry): A humidifier is recommended to prevent excess shrinkage due to low humidity levels. Wood stove and electric heat tend to create very dry conditions.
    b. Non Heating Season (Wet): An air conditioner, dehumidifier, or periodically turning on your heating will help to maintain humidity levels during summer months.
5. Avoid excessive exposure to water during periods of inclement weather.
6. Do not walk on your floor with stiletto heels, spiked golf shoes, or other types of sports cleats.
7. Do not allow sharp, pointed, or rough textured objects to be exposed to the hardwood flooring.
8. Keep your pet's nails trimmed to prevent them from scratching your floor.
9. Periodically rearranging your area rugs and furniture will allow the floor to age evenly. UV sunlight will soften the tone of different species of hardwood to varying degrees.
10. Use a dolly when moving heavy furniture or appliances; but first, put down a piece of quarter inch plywood or Masonite to protect the floor. Never try to slide or roll heavy objects across the floor.
11. A protective mat should be used for furniture or chairs with castors.

Repairing Your Hardwood Floor

1. Minor damage to your hardwood floor can be repaired by using a color fill. This special product should be matched to the color of your floor and, when properly used, will make the damaged area virtually invisible. In addition, the repaired area will hold up to traffic and wear.
2. A qualified hardwood flooring installer should repair extensive damage to traditional engineered or solid hardwood flooring.
3. Call the SHAW Information Center at 1-800-441-7429 for assistance.